

WEST

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L7: Entry 3 of 14

File: TDBD

Dec 1, 1961

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DISCLOSURE TITLE: Deformation Image Processing. December 1961.

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DISCLOSURE TEXT:

2p. SEE ORIGINAL FOR DIAGRAM. The speed of processing deformation images on dielectric material is increased by simultaneously exposing and developing. - A film 4 of desired dielectric material, for example, styrene coated polyethylene terephthalate, is sensitized by charging uniformly. This is effected at a polarity opposite to the intrinsic polarity of electric charge on a xerographic plate 6. Film 4 is superimposed over the plate 6 with the photoconductive material of the plate and film 4 in virtual contact in darkness in print frame 8. The image of a document 10 is optically projected through a lens 12 and shutter 14 onto the 4 and plate 6. Exposure results in conduction of the photoconductive material. This causes an increase in electrostatic field strength in the exposed areas of the film 4. An electrostatic charge pattern corresponding to the initial image is thus formed on 4. - The image on film 4 is simultaneously developed by exposure to solvent vapor in chamber 16 of frame 8. Chamber 16 is connected to a tank 18 containing a solvent 20, for example trichlorethylene. Its vapors flow through conduit 22, with valve 24 open as shown, to 16. Heater 26 is provided to insure vaporization of solvent 20, although in some instances heat is not required. Positive vapor movement is provided by blower 28. This also serves, when valve 24 closes conduit 22, to force clear air into the chamber 16 to purge the excess vapor from film 4 to fix it. Excess vapor is forced through conduit 30 into condenser 32, having vapor trapping air vent 34, to return condensed solvent through conduit 36 to tank 18. - The simultaneous exposure to solvent vapor softens film 4. Variation in field strength of the electrostatic charge causes the softened film 4 to deform, creating a deformation image. Rapid drying deformed film 4, by clearing the air in the chamber 16, solidifies film 4, forming a permanent record which is viewed

16, solidifies film 4, forming a permanent record which is viewed with a Schlieren optical system.

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PRESSURES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	266497
TEMPERATURE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1972281
TEMP.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	752934
TEMPS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	78989
TEMPERATURES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	559190
VOLUME.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	825412
VOL.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	495374
CONDENS\$5	0
CONDENS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	809
((PRESSURE NEAR5 TEMPERATURE NEAR5 VOLUME NEAR5 CONDENS\$5 NEAR5 (STEAM OR WATER))) .USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	13

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(pressure near5 temperature near5 volume
 near5 condens\$5 near5 (steam or water))

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USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(pressure near5 temperature near5 volume near5 condens\$5 near5 (steam or water))	13	<u>L48</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	L44 and (volume same temperature same pressure)	0	<u>L47</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	L44 and (volume near15 temperature near15 pressure)	0	<u>L46</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	L44 and (volume near5 temperature near5 pressure)	0	<u>L45</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(condensation adj chamber).ti.	160	<u>L44</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(condensation and chamber).ti.	510	<u>L43</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(substrate or cloth or object or fiber) near5 spray\$ near5 steam	134	<u>L42</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	saturate near5 (substrate or cloth or object or fiber) near5 spray\$ near5 steam	0	<u>L41</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	saturate near5 (substrate or cloth or object or fiber) near5 spray\$ near5 water near5 steam	0	<u>L40</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wet near10 spraying near10 condens\$5	14	<u>L39</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wet near5 spraying.near5 condens\$5	4	<u>L38</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wet near3 spraying near3 condens\$5	4	<u>L37</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wet near3 (object or substrate) near3 spraying near3 condens\$5	0	<u>L36</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wetting near3 (object or substrate) near2 spraying	16	<u>L35</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wetting near3 (object or substrate) near2 (spraying same condens\$5)	0	<u>L34</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	wetting near3 (object or substrate) near2 (spraying near2 condens\$5)	0	<u>L33</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(water or H2O) near5 (condens\$5 adj spray\$4)	122	<u>L32</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(water or H2O) near5 (condens\$5) near5 spray\$5	1435	<u>L31</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(saturate near5 (water or H2O)) same (condens\$5) same spray\$5	23	<u>L30</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(saturate near5 substrate near5 (water or H2O)) same (condens\$5) same spray\$5	0	<u>L29</u>
USPT	L27 and ((vapor deposition) or condens\$5 or evaporat\$5) and dry\$4	14	<u>L28</u>
USPT	((307/400).!ICLS.) ((vapor deposition) same (superior or	102	<u>L27</u>

USPT,PGPB,JPAB,EPAB,DWPI,TDBD	better) same (spray\$4)) same (coat\$4 or film)	44	L26
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	((vapor deposition) near3 (superior or better) near3 (spray\$4)) same (coat\$4 or film)	0	L25
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(spray\$4 same water) same (vapor deposition) same condens\$5 same evaporat\$5	0	L24
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(spray\$4 near4 water) same (vapor deposition) same condens\$5 same evaporat\$5	0	L23
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(nebuliz\$5) same (vapor deposition)	28	L22
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(nebuliz\$5) same (vapor deposition) same condens\$5	1	L21
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	(nebuliz\$5) same (vapor deposition) same condens\$5 same evaporat\$4	0	L20
USPT,PGPB	L18 and ((vapor deposition) or evaporat\$4 or condens\$5)	4	L19
USPT,PGPB	5496507	32	L18
USPT,PGPB	4344810	6	L17
USPT,PGPB	(pressure same temperature same volume same (chang\$4 or alter\$4 or vary\$4 or reduc\$4 or increas\$4) same (condense or condensate or condensation))	1021	L16
JPAB,EPAB,DWPI,TDBD	electret and (liquid near2 contact near2 charg\$4)	3	L15
USPT,PGPB	electret same (liquid near2 contact near2 charg\$4)	5	L14
USPT,PGPB	(electret and (vapor deposition)).ti,ab.	3	L13
USPT,PGPB	electret same charge same (evaporat\$4 or condens\$5)	62	L12
JPAB,EPAB,DWPI,TDBD	evaporat\$4 and (dielectric or electret) and condens\$5	254	L11
USPT,PGPB	evaporat\$4 same (dielectric or electret) same condens\$5	175	L10
USPT	5705219	1	L9
USPT	5151321	11	L8
JPAB,EPAB,DWPI,TDBD	(dielectric and (condens\$5)) and dry\$4 and (electret or charg\$3)	14	L7
USPT,PGPB	(dielectric same (condens\$5)) same dry\$4	105	L6
USPT,PGPB	(dielectric same (condens\$5)) and dry\$4	782	L5

USPT,PGPB	(dielectric same (condens\$5 or vapor)) and dry\$4	4276	<u>L4</u>
USPT	4592815	103	<u>L3</u>
USPT	4375718	118	<u>L2</u>
USPT	31285	41	<u>L1</u>